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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,375	01/23/2002	Toru Kono	108179-00007	3412

7590 02/13/2003

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EXAMINER
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BOSWELL, CHRISTOPHER J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/052,375

Applicant(s)

KONO, TORU

Examiner

Christopher Boswell

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\*The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Drawings***

Figures 13-18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: there are numerous misspellings of the word --brush--. Specifically on pages 9 and 10, "brash" is used. The examiner suggests using a "find and replace" function on a word processor to make the appropriate corrections.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent Number 5,401,036 to Basu.

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Basu discloses a brush seal device (100) comprising a brush seal (130) formed from bristles (130) arranged into a wall shape, and including an attachment portion (140) formed by connecting the bristles together at one end, and a free end face facing an opposing surface of the other part, a back plate (120) connected to the attachment portion and includes a support surface (150) and a retaining plate (110) for retaining the attachment portion, wherein the support surface and an opposing surface of the brush seal are disposed at a distance from each other. However, Basu fails to disclose the diameter of the bristles. Since there is no showing of criticality of the diameter of the bristles, bristles size is considered an optimization of proportion in a prior art device.

Basu also discloses the back plate having a recess (figure 1, between the bristles 130 and the support surface 150) formed along an arrangement direction of the bristles and the recess serves as a support surface.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basu in view of U.S. Patent Number 5,799,952 to Morrison et al.

Basu discloses the invention substantially as claimed. However, Basu does not disclose a line shaped projection extending from the back plate. Morrison teaches the use of a line-shaped projection (24) in the same field of endeavor for the purpose of reducing the bristle restoration force. It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a line-shaped projection from either the back plate or recess of Basu in order to reduce the bristle restoration force caused by fluid moving from a high pressure area to a low pressure area.

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### *Allowable Subject Matter*

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The claim is allowable over the prior art of record because the teachings of the references taken as a whole do not teach or render obvious the combination set forth, including that of the bristles of a brush seal are tilted from the attachment portion and a support surface or back plate including a resistance means for preventing the bristles from moving in such a direction as to reduce their tilt angle.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to brush seals:

U.S. Patent Number 6,173,962 to Morrison et al., U.S. Patent Number 6,139,019 to Dinc et al., U.S. Patent Number 5,975,535 to Gail et al., U.S. Patent Number 5,474,305 to Flower, U.S. Patent Number 5,335,920 to Tseng et al., U.S. Patent Number 5,106,104 to Atkinson et al., U.S. Patent Number 5,135,237 to Flower, U.S. Patent Number 5,042,823 to Mackay et al., U.S. Patent Application Publication Number 2003/0006,559 to Inoue.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Boswell whose telephone number is (703) 305-4067.

The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (703) 308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



Anthony Knight  
Supervisory Patent Examiner  
Technology Center 3600

CJB  
February 7, 2003